

ANNEX
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
ARMSTRONG FLIGHT RESEARCH CENTER
AND LOCKHEED MARTIN
UNDER SPACE ACT UMBRELLA AGREEMENT
NO. 25811, DATED 11/27/2017 (ANNEX NUMBER 2).

ARTICLE 1. PURPOSE

This Annex shall be for the purpose of Lockheed Martin (LM) working on a research and development project to integrate and test an Optical Air Data System (OADS) at supersonic speeds and high altitude. LM seeks the cooperation of NASA to install the OADS on the Propulsion Flight Test Fixture and F-15 or F-18 aircraft and perform multiple flight demonstrations.

The legal authority for this Annex, consistent with the Umbrella Agreement, is in accordance with the National Aeronautics and Space Act (51 U.S.C. § 20113(e)).

ARTICLE 2. RESPONSIBILITIES

A. NASA AFRC will use reasonable efforts to:

1. Provide an F-15 or F-18 aircraft to serve as the flight testbed.
2. Provide the selected pod to house the OADS hardware.
3. Review LM-provided design documentation (including but not limited to hardware drawings, structural analysis, electrical drawings, power load requirements, weight and balance) to ensure design is compatible with the AFRC aircraft systems and safe to fly.
4. Prepare all required Installation, Check-out and Operational Procedures.
5. Participate in all working groups, reviews and boards, as necessary.
6. Serve as the Mishap Lead should any incident or mishap occur.
7. Meet all required Project Security Requirements.
8. Support flight planning and conduct aircraft flights with LM-provided instruments.
9. Provide aircraft air data and accuracy post flight.
10. Conduct airworthiness and flight safety review process per NASA AFRC processes and procedures

B. Partner will use reasonable efforts to:

1. Ensure a successful Flight Test is performed (Mission Success)
2. Provide Subject Matter Experts, technical and test personnel to ensure mission success.
3. Provide the OADS sensors, chassis, and any associated cabling/harnesses/hardware.
4. Collaborate with the design, analysis, fabrication, installation, check-out and execution of the OADS flights.
5. Fabricate plates/panels as necessary to integrate the OADS hardware into the selected pod.

6. Integrate the OADS hardware into selected pod and prepare to a test-ready condition.
7. Assist with preparation of all necessary Installation, Check-out, Ground & Flight Test Procedures.
8. Provide all necessary Project Clearance & Security requirements.
9. Participate in all working groups, reviews and boards, as necessary.
10. Assist with any investigation should any incident or mishap occur.
11. Provide funding and Administrative P.O.C.s to ensure project success.
12. Provide LM Optical Air Data to NASA

ARTICLE 3. SCHEDULE AND MILESTONES

The planned major milestones for the activities for this Annex defined in the "Responsibilities" Article are as follows:

Complete Agreement and provide funding	09 DEC 2019
AFRC will provide a pylon or fixture for design and integration	16 DEC 2019
Complete PDR	06 JAN 2020
Complete CDR	27 JAN 2020
Pod/Fixture with integrated OADS is delivered to AFRC	24 FEB 2020
Complete Pod/Fixture Integration and CST	09 MAR 2020
Complete Ride-Along Test Flights	30 JUN 2020

ARTICLE 4. FINANCIAL OBLIGATIONS

A. Partner agrees to reimburse NASA an estimated cost of \$346,453 for NASA to carry out its responsibilities under this Annex. Each payment shall be marked with AFRC Annex No 31588.

B. NASA will not provide services or incur costs beyond the current funding. Although NASA has made a good faith effort to accurately estimate its costs, it is understood that NASA provides no assurance that the proposed effort under this Annex will be accomplished for the estimated amount. Should the effort cost more than the estimate, Partner will be advised by NASA as soon as possible. Partner shall pay all costs incurred and have the option of canceling the remaining effort, or providing additional funding in order to continue the proposed effort under the revised estimate. Should this Annex be terminated, or the effort completed at a cost less than the agreed-to estimated cost, NASA shall account for any unspent funds within one year after completion of all effort under this Annex, and promptly thereafter, at Partner's option return any unspent funds to Partner or apply any such unspent funds to other activities under the Umbrella Agreement.

ARTICLE 5. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

A. Data produced under this Annex which is subject to paragraph C. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement will be protected for the period of one year.

B. Under paragraph H. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement, Disclosing Party provides the following Data to Receiving Party. The lists below may not be comprehensive, are subject to change, and do not supersede any restrictive notice on the Data provided.

1. Background Data:

The Disclosing Party's Background Data, if any, will be identified in a separate technical document.

2. Third Party Proprietary Data:

The Disclosing Party's Third Party Proprietary Data, if any, will be identified in a separate technical document.

3. Controlled Government Data:

The Disclosing Party's Controlled Government Data, if any, will be identified in a separate technical document.

4. The following software and related Data will be provided to Partner under a separate Software Usage Agreement:

None

ARTICLE 6. TERM OF ANNEX

This Annex becomes effective upon the date of the last signature below ("Effective Date") and shall remain in effect until the completion of all obligations of both Parties hereto, or three years from the Effective Date, whichever comes first, unless such term exceeds the duration of the Umbrella Agreement. The term of this Annex shall not exceed the term of the Umbrella Agreement. The Annex automatically expires upon the expiration of the Umbrella Agreement.

ARTICLE 7. RIGHT TO TERMINATE

Either Party may unilaterally terminate this Annex by providing thirty (30) calendar days written notice to the other Party.

ARTICLE 8. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Annex.

Management Points of Contact

NASA Armstrong Flight Research Center

Eric Miller
Project Manager
Mail Stop: 4800-2701
P.O. Box 273
Edwards, CA 93523
Phone: 661-276-7041
eric.j.miller@nasa.gov

Lockheed Martin

Marty Zarasua
Project Manager
1011 Lockheed Way
Palmdale, CA 93599
Phone: 661-572-4371
marty.zarasua@lmco.com


ARTICLE 9. MODIFICATIONS

Any modification to this Annex shall be executed, in writing, and signed by an authorized representative of NASA and the Partner. Modification of an Annex does not modify the terms of the Umbrella Agreement.

ARTICLE 10. SIGNATORY AUTHORITY

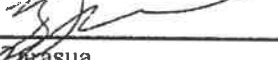
The signatories to this Annex covenant and warrant that they have authority to execute this Annex. By signing below, the undersigned agrees to the above terms and conditions.

NATIONAL AERONAUTICS AND SPACE
ADMINISTRATION
ARMSTRONG FLIGHT RESEARCH CENTER

BY: 
Joel Sitz
Director for Programs

DATE: 1/8/2020

LOCKHEED MARTIN

BY: 
Marty Zarasua
Project Manager

DATE: 1/6/2020

BY: 
Lori Kaminski
Supply Chain Management

DATE: 01/07/2020